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Before the Arizona Corporation Commission

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Arizona Corporation Commission
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IN THE MATTER OF RESOURCE PLANNING AND PROCUREMENT	Docket No. E-00000V-15-0094
IN THE MATTER OF POSSIBLE MODIFICATIONS TO THE ARIZONA CORPORATION COMMISSION'S ENERGY RULES	~~Docket No. RU-00000A-18-0284~~

Comments of Southwest Energy Efficiency Project,
Western Resource Advocates, and Western Grid Group
Supporting an Extension of the Moratorium on Natural Gas Generation

The undersigned organizations support the request by Commissioner Tobin to vote on an extension of the moratorium on the procurement of natural gas generation contained in Decision No. 76632 at the December 17 open meeting[1]. However, we request that the Arizona Corporation Commission (Commission) extend the gas moratorium for one year, from December 31, 2018 to December 31, 2019, which would be about five months longer than the extension that Commissioner Tobin proposed (Commissioner Tobin proposed an extension to "on or about August 1, 2019.")[1]

Background

In at least two decisions in the past eighteen months the Commission has enacted moratoria on the development of gas resources. Decision No. 76295[2] dated August 18, 2017, established a "self-build" moratorium for Arizona Public Service Company (APS) for combined cycle gas resources. The Settlement Agreement adopted in that decision includes in the recitals:

> "A moratorium on new self-build generation until January 1, 2022 and through December 31, 2027, for construction of combined cycle generating units."[3]

[1] http://docket.images.azcc.gov/0000193745.pdf
[2] http://images.edocket.azcc.gov/docketpdf/0000182160.pdf
[3] Decision No. 76295, Section 1.5(i), Page 130.

Decision No. 76632 on Resource Planning and Procurement adopted a specific requirement that regulated utilities not procure natural gas generation of 150 MW or more from the decision date of March 29, 2018, through January 1, 2019:

> "IT IS FURTHER ORDERED that a Load Serving Entity may not procure by purchase, acquisition, or construction a generating facility of natural gas energy of 150 MW of capacity or more unless all of the following conditions are met: (a) all ordering paragraphs, conditions, and additional compliance items required by this Decision have been fully satisfied, as determined by a future order of the Commission; the Load Serving Entity has conducted an independent analysis comparing the present and future costs between the specific natural gas procurement and alternative energy storage options and Staff reviewed that analysis; and (c) the Load Serving Entity led a petition under R14-2-704(E) that seeks approval for the specific procurement, and the Commission approved the petition. This ordering paragraph and the requirements it establishes shall expire automatically on January 1, 2019."[4]

In Open Meeting discussions and in correspondence on the most recent utility Integrated Resource Plans (IRPs),[5] Commissioners cited concerns with utility over-reliance on gas and load growth projections that were overly optimistic, possibly leading to over building of energy resources and infrastructure. In fact, these reasons contributed to the Commission decision not to acknowledge the utility IRPs.[6]

Commissioner Tobin's November 16, 2018 letter states "the intent of this [gas] moratorium was to avoid building costly new generation infrastructure until the Commission could develop a long-term comprehensive energy plan to give regulated utilities a better sense of the priorities of the Commission for our energy future."[7]

Concerns about the risks of over-reliance on gas posed by significant increased purchases of gas resources are also shared by customers and organizations; as is evidenced by multiple filings in the Docket E-00000V-15-0094. Signers to this letter remind the Commission of our concerns and the filing of the Alternative/Joint Stakeholder IRPs for APS and TEP that were developed by a coalition of sixteen different business, consumer, and environmental organizations. These Alternative IRPs demonstrate that load growth can be met with almost no additional natural gas resources and that a diverse combination of resources will carry less price volatility risk and cost customers less.[8]

We believe the Commission took the appropriate action to protect customers when it instituted the natural gas moratorium in Decision 76632 that lasts through the end of 2018. We request that the Commission not allow the gas moratorium to expire until after the information from the energy modernization plan workshops and the utility IRP filings are received and reviewed. We cite the following facts to support this request:

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[4] http://docket.images.azcc.gov/0000186964.pdf, pages 51 beginning at Line 27 - 52.

[5] For example see: http://docket.images.azcc.gov/0000175297.pdf and Commissioner Burns Amendment 1 http://docket.images.azcc.gov/0000186395.pdf

[6] http://docket.images.azcc.gov/0000186395.pdf

[7] http://docket.images.azcc.gov/0000193745.pdf

[8] http://docket.images.azcc.gov/0000185642.pdf

1. Commission consideration of modification of energy rules could significantly reduce the need for natural gas generating resources and gas infrastructure.

As pointed out by Commissioner Tobin in his November 16, 2018 letter, the Commission's Modernization and Expansion of the Arizona Renewable Energy Standard and Tariff Docket (Modernization Docket) (Docket No. E-00000Q-16-0289) and its Energy Rules Docket (Docket No. RU-00000A-18-0284) are exploring, among other topics, new, clean technology options that can be used in combination to meet load growth. For example, the Modernization Docket contemplates the addition of up to 3,000 MW of energy storage. Energy storage is not a generation source, but technology that can provide a variety of services to the electric grid. Battery storage is increasingly being combined with renewable energy resources to store energy produced during periods when it is less valuable and provide energy to the system when it is more valuable, such as when the system is at peak. Development of a significant amount of energy storage will allow utilities to take advantage of low cost solar resources in Arizona and California by shifting energy generated by those zero-marginal cost resources to periods of peak demand.

Investing in storage also provides flexibility to the system in ways that gas generation cannot. Storage can be added at the distribution or transmission level, can be combined with a renewable energy project or stand alone, can be used for load shifting, and can be a sink for excess generation from baseload power plants that have minimum generation requirements, such as the Palo Verde Nuclear Generating Station. Adding storage to the system will also add diversity. APS's 2017 IRP plan relies heavily on gas for 67 percent of its peaking capacity.[9]

TABLE ES-1. PEAK CAPACITY: EXISTING AND FUTURE RESOURCES OF THE 2017 IRP SELECTED PLAN (FLEXIBLE RESOURCE PORTFOLIO)

	2017 RESOURCES	PPA EXPIRATIONS/ OCOTILLO STEAMERS	COAL REDUCTIONS	RESOURCE ADDITIONS	2032 RESOURCES
Nuclear	1,146 MW				1,146 MW
Coal	1,672 MW		-702 MW		970 MW
Natural Gas	4,623 MW	-1,297 MW		5,387 MW	8,713 MW
Renewable Energy	529 MW	-26 MW		183 MW	686 MW
Incremental DSM (EE + DR)	116 MW			979 MW	1,095 MW
Energy Storage	0 MW			397 MW	397 MW
TOTAL	**8,086 MW**	**-1,323 MW**	**-702 MW**	**6,946 MW**	**13,007 MW**
Renewable Energy with Existing Rooftop (Nameplate)	1,710 MW	-27 MW		3,315 MW	4,998 MW
Energy Storage (Nameplate)	4 MW			503 MW	507 MW

Similarly, other resources may provide more cost effective and flexible alternatives to new natural gas capacity. For example, wind plants with automatic generation control can provide faster response than fossil generation; demand response can be dispatched to address ramping or peak needs at extremely low cost; and energy efficiency can be targeted to specific loads to achieve more savings during peak or ramping periods. Those resources do not rely on fossil fuels, minimizing the risk of volatile future fuel prices and the potential cost impacts on customers.

[9] https://www.aps.com/library/resource%20alt/2017IntegratedResourcePlan.pdf, page 12

We expect the Commission will explore the benefits of these different resources in upcoming proceedings, particularly in the Modernization Plan docket. If, as the draft Modernization Plan proposes, the Commission adopts new clean energy targets or energy storage targets for utilities, any new investments in natural gas resources could be contrary to – and could compromise – achieving those targets.

2. The Integrated Resource Planning process will provide an opportunity to evaluate gas versus more cost-effective resources.

The IRP process is already underway. For example, APS is hosting stakeholder meetings and planning for the April 1, 2019, Preliminary IRPs filing deadline. The IRP planning process will allow for: the comparison of a variety of resources to meet load; consideration of load growth driving resource decisions; utility plans to address infrastructure inadequacies; and an opportunity to consider if new gas generating resources could become stranded assets if solar, wind, and energy storage technology continue to decline in costs, making gas increasingly risky and uncompetitive.

In Decision No. 76632 on Resource Planning and Procurement regulated utilities are directed to produce portfolios in their 2019 IRP filings that do not rely heavily on new gas and coal resources.

> "IT IS FURTHER ORDERED that Arizona Public Service Company, Tucson Electric Power Company, and UNS Electric, Inc. in each of their next IRPs shall analyze, along with their preferred portfolio, *at least one portfolio where the addition of fossil fuel resources is no more than twenty percent (20%) of all the resource additions.* In developing each of their portfolios to satisfy this requirement, Arizona Public Service Company, Tucson Electric Power Company, and UNS Electric, Inc. shall each work in good faith with each of the stakeholders in this case that desire to continue to participate and also work in good faith with any Tribal Nations located in Arizona that desire to participate in developing the portfolio to satisfy this requirement."[10]

As this analysis is forthcoming it seems unwise to create a window for utilities to purchase gas resources before benefits and risks of different portfolio options are evaluated.

Additionally, the Commission should consider that gas resource purchases may squeeze out more cost-effective resources. Wind and solar resources - with and without storage - are being procured by utilities around the region for record low prices. For example, in Nevada three projects of PV plus storage totaling more 400 MW have prices below $30 per MWh,[11] rivaling the cost of even existing gas resources. Given that Nevada has solar resources similar to Arizona, it is expected that competitive procurement processes will yield similar results for Arizona utilities.[12] Meanwhile, energy efficiency resources remain significantly less expensive than all other resource options both in terms of providing peak capacity ($/kW) and providing energy savings or supply ($/MWh) as reported in the utility's IRPs and their annual Demand Side Management reports.

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[10] http://docket.images.azcc.gov/0000186964.pdf, page 51

[11] Battle Mountain project of 101MW is $26.50 MWh, Dodge Flat Solar project of 200 MW is $26.51 MWh and Fish Springs project of 100 MW is $29.96 https://www.utilitydive.com/news/nv-energy-23-cent-solar-contract-could-set-new-price-record/525610/

[12] For information on the current low prices for renewable energy we commend to you the following website Clean Energy Cost Revolution – www.westerngrid.net/cost

3. <u>The closure of NGS at the end of 2019 creates an opportunity to support an economic transition for the Navajo and Hopi tribes through development of renewable energy resources on Tribal lands and repurposing existing transmission infrastructure.</u>

Navajo Generating Station is scheduled to close at the end of 2019. As a result, APS will retire 315 MW and TEP will retire 168 MW of coal-fired capacity. When the plant closes there will be approximately 2,200 MW of total transmission capacity available to be repurposed to carry other energy resources. APS and TEP own the rights to the transmission corresponding to their share of the plant. As there is no gas pipeline in the region of NGS, it is not possible to repower the plant with gas. There are, however, extraordinary solar and wind resources on the Navajo and Hopi Nations. In fact, the state's best wind resource is located on Gray Mountain on the Navajo Nation. The purchase of wind resources would also complement the utilities' solar resources and decrease variability.

Developing clean energy resources on Navajo and Hopi lands, while taking advantage of existing transmission assets, is a critical component of supporting an important economic transition for Tribal communities. Such developments would provide some revenues to the Tribes to help offset revenues lost from closure of NGS. It could also impact the utilities' need for natural gas generating resources. By extending the gas moratorium, the Commission would allow for critical deliberation about the appropriate investments regulated utilities should make to support an economic transition in affected Tribal communities.

4. <u>The Western Electricity Coordinating Council (WECC) is warning that Arizona and the Southwest have inadequate gas infrastructure today.</u>

WECC is responsible for compliance monitoring and enforcement of regional reliability for the bulk electric system.[13] In June, 2018 WECC released a report entitled, *Gas-Electric interface study for the Western Interconnection.*[14] The study assesses points of vulnerability of the electric system under different conditions. The study points out the precarious condition of the Southwest due to a lack of sufficient gas infrastructure. The report states:

> "The configuration of the gas-electric system combined with the retirement of Aliso Canyon creates region-wide reliability issues, resulting in widespread loss of electric load; the Southwest and Southern California regions appear to be most vulnerable to major disruption events due to 1) heavy reliance on gas generation to meet peak demands, and 2) limited gas storage capability."[15]

It should be noted that this statement and the study reflect today's gas/electric condition, *before* any significant expansion of gas resources planned by Arizona's electric utilities. The study also makes the alarming statement that:

> "...we are now effectively in an N-1 scenario with any major disruptions in the gas transmission system or the Bulk Power System (BPS) pushing the system to the limit."[16]

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[13] https://www.wecc.biz

[14] https://www.wecc.biz/Administrative/WECC%20Gas-Electric%20Study%20Public%20Report.pdf

[15] Western Interconnection Gas – Electric Interface Study, Public Report, June, 2018, page

[16] "N-1 means that the system is planned such that, with all transmission facilities in service, the system is in a secure state, and for any one credible contingency event, the system moves to a satisfactory state. However, if

The transmission system is built to be able to withstand any number of single disruptions (N-1). The WECC study is saying that with the state's lack of gas infrastructure and storage, the electricity system is in a compromised situation today and another disruption (such as a pipeline rupture, compressor station failure, or supply freeze-off) could cause an inability of the system to recover without disruption in electric service. The report suggests that additional infrastructure is needed. However, before contracts are signed for infrastructure associated with additional gas purchases, we believe it is in the state and customers' best interest to evaluate this investment. This is particularly important, given that utilities have cost-effective alternatives to meeting demands without relying on natural gas generating resources.

Conclusion

The Commission protected Arizona utility customers when it instituted a temporary restriction on the procurement of natural gas resources though the end of 2018. Commissioner Tobin has requested the Commission schedule a discussion and possible vote on a gas moratorium extension at the December 17 Open Meeting. We concur with his recommendation and his cited concerns "if the moratorium expires as planned, utilities may once again consider large capital investments in generating facilities and undermine the effectiveness of any energy plan we adopt in the future." While we support Commissioner Tobin's proposal to extend the moratorium, we believe that an extension to August 1, 2019, based on a proposed schedule of workshops on the energy modernization plan is not adequate and may not provide sufficient time for the Commission to consider myriad issues in the energy plan and information received as part of the Integrated Resource Planning process. For the aforementioned reasons, we request the Commission vote on December 17 to extend the gas moratorium until December 31, 2019.[17]

Respectfully submitted on this 6th day of December 2018.

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more than one contingency event was to occur, load may have to be shed to return to a satisfactory state." https://www.ea.govt.nz/operations/transmission/grid-reliability-standards/

[17] http://docket.images.azcc.gov/0000186964.pdf provides that the Open Meeting to acknowledge Integrated Resource Plans will be between 1/15/21-2/15/21